Abstracts

Analysis of Planar Structures by an Integral Approach Using Entire Domain Trial Functions (Short Papers)

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In this paper, a method based on an integral formulation with an excitation term is presented. The particularities of this approach lie in the utilization of entire domain trial functions and in the characterization of the coupling effect due to the excitation mechanism. The trial functions are taken as the TE-TM modes of a waveguide whose cross section corresponds to the shape of the discontinuity. The trial functions are computed and stored in the memory, then the study of complex planar structures becomes easy. A complete study is proposed, including the analysis of the coupling mechanism due to the source interaction and the characterization of higher order modes influence. This work is followed by two applications: a multiaxial discontinuity (bend discontinuity) in microstrip and in CPW. The computed results have been compared with data furnished by the literature. A good accuracy has been obtained.

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